

**EOSDIS IV&V
Monthly Status Report
For the Period 5/1/97 to 5/31/97
(Deliverable 0201D.9)**

June 16, 1997

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1. PERFORMANCE INFORMATION

1.1 Contract Organization Chart

Exhibit 1-1 illustrates the current organizational structure of the EOSDIS IV&V team. The approximate number of personnel assigned to each technical task during May is also indicated.

1.2 Programmatic Information

a) Key Recent Accomplishments

- Submitted WV transition status reports to NASA via e-mail on 5/15 and 5/30. Nine personnel committed to WV to date.
- IV&V inputs were instrumental in modifying the ECS System Verification/Acceptance Test Consolidation Strategy.
- Made arrangements to transition the current Task 8 Lead (Debbie Izumi) off the program by 6/1/97. Acting Task Lead will be Frank Rockwell.
- Continued on-going training of contract personnel. Training in May included self-paced tutorials in Oracle and SQL advanced skills at the Goddard Learning Center; computer-based training in Networking Principles and WAN Fundamentals; and independent training exercises in the Derivation and Validation of Software Metrics, as well as the use of Rational Rose.
- Ensured on-time delivery of contract deliverables as indicated in Exhibit 1-2.

b) Planned Activities

- Continue WV transition effort, and submit semi-monthly status reports to NASA.
- Provide inputs for future tasking for the next contract year.
- Continue on-going training of contract personnel. Tivoli System Administration training is scheduled for 6/9 - 6/11. Other future training initiatives include X-Runner training for Task 11 personnel, OMT and Rational ROSE training for Task 8 new hires, and Sybase System 11 training for system administration. Also, plan to attend training on OOA/OOD, C++, NCRs/DDTS, and the Evolutionary Build Process at the ECS facility as slots are made available to the IV&V team.

Exhibit 1-1: Org Chart (Landscape)

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| Expected Date Due | Dependency | Milestone/Deliverable | Task # | Status* | Comments |
|--------------------------|---------------------------------------|--|---------------|----------------|---|
| 5/1/97 | | EGS I&T Program Test Matrix | 11 | C | Submitted on time. |
| 5/2/97 | | Release B.0/B.1 RBR Analysis TAM | 8 | C | Submitted on time. |
| 5/5/97 | | RTM Quantitative Assessment TAM | 8 | C | Submitted on time. |
| 5/13/97 | | CCR Impact Analysis Forms | 8 | C | Submitted on time. |
| 5/15/97 | | Monthly Status Report | 2 | C | Submitted on time. |
| 5/16/97 | | EOSDIS Security Policy and Guidelines (Update - Final) | 8 | C | Submitted on time. |
| 5/19/97 | | RTM Qualitative Assessment TAM | 8 | C | Submitted ahead of schedule on 5/16/97. |
| 5/20/97 | | ICWG Open Interface Issues Summary Report | 8 | C | Submitted on time. |
| 5/23/97 | | ECS Toolkit Testing TAM | 8 | C | Submitted on time. |
| 5/28/97 | | EGS I&T Joint Test Packages for TRMM (Version 1 Science Data Processing Test Packages) | 11 | C | Submitted on time. |
| 5/30/97 | | EGS I&T Confidence Test Program (Update, Revision 2) | 11 | C | Submitted on time. |
| 5/97 | Daily or Periodic e-mail | EGS Test Summaries for Version 1 - Flight System | 11 | C | Submitted on time. |
| 6/6/97 | RTM + 2 weeks and/or end of month | Monthly Metrics Reports | 8 | IP | |
| 6/6/97 | RTM release + 2 weeks | RTM Quantitative Assessment TAM | 8 | IP | |
| 6/10/97 | One week prior to CCB or ICWG meeting | CCR Impact Analysis Forms | 8 | IP | |
| 6/15/97 | | EGS V1 Integration Debrief - Flight System | 11 | O | |
| 6/17/97 | At monthly ICWG | ICWG Open Interface Issues Summary Report | 8 | O | |
| 6/23/97 | RTM release + 4 weeks | RTM Qualitative Assessment TAM | 8 | O | |
| 6/97 | Monthly | EGS I&T Program Test Matrix (Updates) | 11 | IP | |

* C = Completed, IP = In Process, O = Open, D = Delayed, CX = Canceled

EXHIBIT 1-2: Status of Milestones/Deliverables

1.3 Technical Task Information

Task # 4: IV&V Infrastructure and Tool Development

a) Task Accomplishments

- Imported new ECS RTM baseline received from Hughes via FTP on 5/23/97.
- Attended ESDIS Requirements Database Engineering Team (ERDET) meetings on 5/13/97. Presented status on the capabilities of the newly established integrated requirements database containing requirements that cross project elements (MTPE, ESDIS, ECS, EDOS, EBNet).
- Created ESDIS L3 to ECS L3 discrepancy report and MTPE Level 1 to ECS Level 4 Trace Report. This report will be posted in the EOSDIS IV&V library so that interested parties can download it.
- Provided IV&V tools training (i.e., Project Issue Tracking System, Automated Requirements Database, and RTM) to new WV hires and transfers.
- Modified the TMDB to provide new V1/V2 metrics reporting and test case copy capabilities.
- Initiated assessment of the Visual Café Pro Java development environment from Symantec.
- Continued M&O activities for the Project Issue Tracking System (PITS), Automated Requirements Database (ARDB), Test Management Database (TMDB), and contract homepages.

b) Issues/Concerns

- None.

c) Subcontractor Performance

- EWA's performance has been very good. Specific activities included maintaining and operating the Test Management Database (TMDB).

d) Planned Activities

- Update Integrated Support Environment (ISE) Sybase database with ECS 5/23/97 RTM baseline information. Produce change impact analysis reports reflecting deleted requirements with allocations to TMDB packages.
- Gather feedback on discrepancy reports and bidirectional trace reports generated against the integrated requirements database.
- Post integrated requirements database reports in EOSDIS IV&V and ERDET homepage libraries.
- Initiate development of World Wide Web based query interface to newly created integrated requirements database.
- Support installation of Rational Rose capabilities to Fairmont, WV.
- Continue to reconfigure and refine IV&V databases, homepages, and tools as necessary to support ECS Release B IV&V analysis and I&T activities.

Task # 8: Development Life Cycle Analysis

a) Task Accomplishments

Planning and Rapid Analysis Team:

- Completed quantitative analysis of the 4/18/97 RTM repository. Submitted TAM on 5/5/97.
- Participated in ESDIS Requirements Database Engineering Team (ERDET) meetings on 5/13/97.
- Performed CCR data entry into the Hughes RTM repository to support the 5/23/97 RTM release.
- Completed documenting findings of Release B RBR allocation to Release B.0 and B.1. Submitted TAM on 5/2/97.
- Supported Glenn Iona and ESDIS teams to map Level 3 RBRs to ECS builds (RCC, RC11, JIT1, JIT2).
- Continued self-training on Rational Rose by running sample code through reverse-engineering tool. Began review of pre-release B designs that were reverse-engineered by Hughes using Rational Rose.

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- Initiated an activity (under Dan DeVito) to quantitatively examine SLOC to predict the downstream effects on code growth.

System and Interfaces Analysis Team:

- Completed qualitative analysis of 4/18/97 RTM baseline and delivered TAM on 5/16/97.
- Started qualitative analysis of the 5/23/97 RTM release.
- Supported ESDIS teams formed to audit ECS external interfaces. Attended related meetings.
- Submitted PITS-ICWG Issues Summary Report on 5/20/97.
- Participated in kickoff Interface Issues 'Bulldog' Meeting with Ellen Herring/505, Dave Blanchard/SGT, Paul Ondrus/505, Mike Rackley/510, John Roeder/CSC, Debbie Cooley/CSC. Purpose of meeting is to pursue the resolution of open interface issues.
- Participated in ECS ICD audit and drill-down meetings for ECS interfaces with ASTER GDS, EDOS, EBNNet, NSI, Landsat and SCF.
- Started informal review of ECS-DAS ICD. Formal document was received on 5/28/97.
- Received and started analysis on 6 CCRs as noted below:

| CCR # | Title | Comments Due |
|---------------|--|--------------|
| 505-42-01-009 | Baseline the SDPF-TRMM Customers ICD | 6/9/97 |
| 505-01-30-015 | Level 2 Changes for TRMM, SeaWinds, RadarAlt, and EPGS support | 6/10/97 |
| 505-01-41-150 | Consolidate Snow and Ice DAAC Ops Staff change to the ECS SOW | 6/10/97 |
| 505-01-41-151 | Consolidate Physical Oceanography DAAC Ops Staff change to ECS SOW | 6/10/97 |
| 505-01-41-152 | Additional IST Users (F&PRS, ECS-SDVF ICD) | 6/10/97 |

System Security Analysis Team:

- Completed Internet SAFEsuite Scanner (ISS) training. This tool will be used to determine system/network vulnerabilities associated with the EOSDIS.
- Met with NASA and CSC personnel to resolve 12 outstanding issues associated with the EOSDIS Policy and Guidelines document. Revised and submitted document to NASA on 5/16/97, as scheduled.
- Established EOSDIS ISS Security Assessment Team (E-IAT) consisting of IV&V, EGS I&T, and CSC representatives. Created bulletin to introduce team to DAAC Managers.
- Participated in meeting with NASCOM personnel to discuss requirements for setting up an ISS testing lab at GSFC.
- Investigated potential vulnerabilities associated with conducting remote scans across the Internet. Exploring the use of encryption to conduct these remote scans. Such scans would offer a low cost alternative to traveling to specific site locations.
- Began documenting strategy/methodology for conducting system vulnerability tests at both GSFC and LaRC DAACs.

Test Analysis and Witnessing Team:

- Attended Release B.0 system verification walkthroughs. Reviewed test procedures and provided comments to ECS test team.
- Completed support to ECS Toolkit testing. Tested software, developed scripts and drivers to support testing, identified problems and wrote NCRs, verified requirements coverage, verified completeness and consistency of supporting documentation, and attended daily toolkit status meetings. Documented findings, lessons learned, and recommendations in TAM submitted on 5/23/97.
- Supported ESDIS team in assessing risks of combining Release B.0 System Verification and Acceptance Testing. Documented and presented assessment results to ESDIS.

b) Issues/Concerns

- The lack of access to a current ECS Release B design continues to constrain level of design analysis achievable by IV&V.
- ECS code is needed to fully understand the reverse engineering capabilities and limitations of the Rational Rose tool with respect to ECS. We have been unsuccessful to date in obtaining ECS code.

c) Subcontractor Performance

- CTA is leading the SIA Team. Their technical staff also supports other integrated analysis teams within Task 8. Their performance has been very good.
- SES is leading the TAW Team. Their technical staff also supports other integrated analysis teams within Task 8. Their performance has been very good.

d) Planned Activities

General:

- Continue transition planning and staffing to support transition of IV&V responsibilities to West Virginia.
- Support development of revised Task 8 SOW.
- Attend training on OOA/OOD, C++, NCRs/DDTS, and the Evolutionary Build Process at the ECS facility as slots are made available to the IV&V team.
- Work to resolve outstanding Technical Issue Memoranda (TIMs).

Planning and Rapid Analysis Team:

- Complete quantitative analysis of 5/23/97 release of RTM. Prepare and submit the quantitative analysis/monthly metrics report.
- Continue Rational Rose internal training. Obtain ECS code to determine the effort needed to produce a quality design using the reverse-engineering feature of the tool.
- Support Mark Simons and ESDIS requirements management processes, as required.
- Continue examining ECS SLOC trends to predict downstream effects of code growth.

System and Interfaces Analysis Team:

- Continue supporting the ECS external interface audit.
- Review ECS-DAS ICD and generate TAM to document results.
- Complete analysis of the 5/23/97 RTM requirements baseline and prepare qualitative analysis TAM.
- Support ongoing review of CCRs.

- Continue data entry into PITS ICWG repository, and present at next ICWG status meeting scheduled for 6/17/97.
- Support ESDIS Requirements Management activity.
- Develop additional scripts to automate as much of the requirements analysis process as possible.
- Begin processing the expected 6/27/97 RTM Requirements Baseline.

System Security Analysis Team:

- Upon receipt of SAFEsuite tool, begin physical setup of ISS test lab.
- Begin a series of scan tests to benchmark SAFEsuite and to gain an in-depth understanding of tool capabilities and output.
- Finish draft of strategy/methodology for conducting system vulnerability tests at DAACs.
- Support any briefings and demonstrations associated with upcoming SAFEsuite tests.

Test Analysis and Witnessing Team:

- Continue supporting Release B.0 system verification procedures walkthroughs. This includes reviewing test procedures, analyzing requirements traceability, and providing comments/recommendations to ESDIS and ECS test team.

Task # 11: EOS Ground System Integration and Test

a) Task Accomplishments

EGS Version 1 Test Planning:

- Revised and re-delivered EGS I&T Joint Test Packages for TRMM (i.e., Version 1 Science Data Processing Test Packages) on 5/28/97.
- Initiated joint NYMA/GSFC DAAC TRMM TSS - TSDIS testing.

Integration Schedule Tracking and Analysis:

- Reviewed/Revised EGS I&T test schedule.
- Continued ECT2 test planning and schedule development.

Integration Test Tool Definition and Plans:

- Collected monthly test package metrics.
- Revised Test Management Data Base (TMDB) test tool.
- Captured test program metrics, including test execution results using automatic requirements metric collection.

EGS Confidence Test Planning:

- Delivered the EGS I&T Confidence Test Program Plan (Revision 2) on 5/30/97, as scheduled.
- Supported I&T Integrated Product Team and TICTOC activities.
- Delivered updated EGS I&T Program Test Matrix.
- Continued analyzing B0/B1 test package allocation.
- Attended meetings and coordinated activities with ESDIS Test Data Set working group and EDOS TOG.
- Continued Landsat 7 MRTT coordination. Revised Landsat 7 EGS I&T test plan.
- Supported ASTER Interface meetings.

EGS Version 1 Integration and Test:

- Submitted EGS Test Summaries (e-mails) for Version 1 - Flight System.
- Completed ICT 13 EOC- ICC/IST Interface Test. This completes Version 1 Flight System testing.
- Supported FOS DRB, ETS DRB, EDOS with DRs.

b) Issues/Concerns

- We need to continue developing relationships with our joint test partners. This is especially important when trying to schedule resources.

c) Subcontractor Performance

- Subcontractor performance has been very good.

d) Planned Activities

- Continue to plan EGS I&T Science/Systems IPT test package targets; reschedule based on DAAC input.
- Continue to plan EGS I&T test data plan target dates, working with EGS I&T Test Data Coordinator.
- Continue TRMM TSS EGS I&T testing.
- Continue Landsat 7, AM-1, Sage III Mission joint test planning.
- Complete monthly metrics, matrix update, and ongoing task support activities.

2. FINANCIAL/CONTRACTUAL INFORMATION

**This Section
Has Been Removed
Due to Proprietary Content.**